

Background

The Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site is located in Allegan and Kalamazoo Counties, Michigan. The site includes soil and sediments contaminated by a group of chemicals called biphenyls *polybrominated* (PCBs) in 80 miles of the Kalamazoo River (from Morrow Dam to Lake Michigan), paper mill properties, riverbanks and floodplains, and a 3-mile stretch of Portage Creek. EPA has broken down the site into six segments, or *operable units* (OUs), that require cleanup. The six OUs are as follows:

- **OU 1:** Allied Paper Property/Bryant Mill Pond Area;
- **OU 2:** Willow Boulevard and A-Site Landfill;
- **OU 3:** King Highway Landfill;
- **OU 4:** 12th Street Landfill;
- **OU 5:** Portage Creek and Kalamazoo River sediments; and
- **OU 7:** Plainwell Mill

Five of the OUs are considered *source OUs*, meaning they historically contributed to (i.e., were *sources* of), the river's contamination. So far, cleanup has taken place at three of the five source OUs and EPA conducts maintenance activities and monitors underground water sources, or *groundwater*, at these locations. For the remaining OUs that were a source of contamination to the river, interim actions have been taken to stop contamination to the river and cleanup decisions have occurred to address what remains.

OU5 includes 80 miles of the Kalamazoo River and 3 miles of Portage Creek. Because OU5 is so large and complex, it has been divided into seven Areas. Each Area is separated by dams and requires its own cleanup. EPA has decided on cleanup plans for two of the seven Areas in addition to taking interim actions throughout Kalamazoo River and Portage Creek to protect human health and the environment.

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What Is Being Done to Clean Up the Site?

Since 1998, EPA has removed nearly **450,000 cubic yards** of contaminated material from the site, cleaned up and restored **seven miles** of the Kalamazoo River and banks, and capped **82 acres** worth of contaminated material to lock it away.

EPA is working with its partners at the Michigan Department of Environmental Quality (MDEQ) and the *potentially responsible parties* (PRPs), or the parties responsible for the contamination, to clean up the site and eliminate PCBs, the chemicals of concern, from entering the Kalamazoo River. Under the law, EPA can require the PRPs to pay for the cleanup. EPA and the PRPs have entered into a number of legal agreements wherein the PRPs will either reimburse EPA for cleaning up the site, or conduct cleanup activities with EPA oversight. While work is being done,

the State of Michigan has posted fish advisory signs along the Kalamazoo River warning people about the risks of eating fish from the river.

During the cleanup there are two EPA programs working in tandem: the *Remedial Program* and the *Removal Program*. The Remedial Program addresses contamination that does not pose an immediate threat to public health or the environment – the cleanups are very thorough, require lots of planning, and move from upstream to downstream. The Removal Program addresses contamination that poses an immediate threat to human or environmental health – removal actions target contamination “hot spots” throughout the site. Typically, removals are implemented based upon information obtained by the Remedial Program, and once the removal action is complete, the Remedial Program will address the remaining cleanup required in a particular section of the river.

The site is very large and complex, and thus has been broken down into smaller pieces called *Operable Unit* (OUs). EPA and MDEQ have cleaned up three of the six OUs so far (OU2: Willow Boulevard and A-Site Landfill; OU3: King Highway Landfill; OU4: 12th Street Landfill). The agencies monitor OUs 2, 3, and 4 to ensure the cleanups continue to protect human health and the environment.

EPA has decided on cleanup plans for OU1 (Allied Paper Landfill) and OU7 (Plainwell Mill) and has taken action to make sure the contamination in those locations do not move into the Kalamazoo River or Portage Creek.

OU5 is the largest of the operable units and consists of 80 miles of the Kalamazoo River. Because of its size and complexity, OU5 was subdivided into seven Areas – EPA has decided on cleanup plans for two of the seven Areas. The Agency has also taken *interim actions*, which are measures taken to reduce the release of contamination that threatens human and environmental health *before* EPA chooses the final cleanup plan.

EPA has conducted several five-year reviews of the for the three areas where remedial action has taken place. These reviews ensure that the cleanups put in place protect public health and the environment.

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What Is the Current Site Status?

December 2017

Kalamazoo River Cleanup Progress

In Sept. 2015, EPA signed a document called the *Record of Decision* for Area 1 of the river - Area 1 is the portion of the Kalamazoo River between Morrow Dam and the former Plainwell Dam, and includes Portage Creek between Cork Street and the Kalamazoo River. The cleanup for Area 1 includes excavation of PCB-contaminated “hot spots” in a 2-mile section of the

Kalamazoo River near the confluence of Portage Creek, and floodplain soil removal in the Plainwell Impoundment near the former Plainwell Dam. EPA anticipates work to begin in 2018.

On Dec. 21, 2016, EPA issued a Unilateral Administrative Order to Georgia-Pacific, International Paper and Weyerhaeuser to conduct the work specified in the record of decision.

In Sept. 2017, EPA signed a record of decision for Area 2 of the river - Area 2 is the portion of the Kalamazoo River between the former Plainwell Dam and the Otsego City Dam. The Area 2 cleanup includes removal of the Otsego City Dam, realignment of the river to create a single stable channel, bank soil and PCB “hot spot” excavation, capping of the *anabranch areas* (areas where streams break away from the main river and then rejoin further downstream), and long-term monitoring.

- *Operable Unit 5 – Area 2 Record of Decision (PDF) (111pp, 19.39MB) September 2017*

In Feb. 2016, EPA approved the Area 3 *site investigation report*, which details the results soil and watersampling at the site. This report indicated high levels of PCB-contamination in the soil and sediment. Georgia-Pacific, the PRP, must submit the Area 3 Feasibility Study report, which evaluates different cleanup options, to EPA in Jan. 2018. In August 2016, work began on a Time-Critical Removal Action in the Kalamazoo River upstream of the Otsego Township Dam and the M-89 bridge (see **Otsego Township Dam - Time-Critical Removal** update below).

Georgia-Pacific submitted the draft Area 4 site investigation report in Sept. 2017 - Area 4 is the Kalamazoo River between the Otsego Township Dam and Trowbridge Dam. This document shows where and how soil and sediment sampling was conducted in Area 4 of the river. EPA is currently reviewing this document.

The Area 5 site investigation officially began in Nov. 2016 - Area 5 is the Kalamazoo River between the Trowbridge Dam and Allegan City Dam. Georgia-Pacific began field investigations in Oct. 2017 which will continue into 2018.

Allied Paper Landfill Update

EPA has been working with the bankruptcy Trustee for Allied Landfill to implement the design for the cleanup selected in the Sept. 21, 2016 Record of Decision. The cleanup plan, or *remedy*, includes consolidation and capping of the waste into a 27-acre area and long-term groundwater monitoring.

- *Operable Unit 1 - Allied Landfill Record of Decision (PDF) (138pp, 24.6MB) September 2016*

Otsego Township Dam - Time-Critical Removal

Dredging work started in Aug. 2016 in the first of nine "Bank Removal and Stabilization Areas" (BRSAs). To date, over 11,000 feet of riverbank has been cleaned up with the removal of over 30,000 tons of PCB-contaminated soils and sediments. Over the next several months, cleanup

along the two remaining BRSAs will be addressed along with removal of the temporary water control structure. The project is expected to be completed by mid-2018.

Plainwell Mill Update

EPA signed a record of decision for the former Plainwell Paper Mill in Sept. 2015. The selected cleanup plan requires the excavation and off-site disposal of contaminated soil from the former mill site. The cleanup work plans were finalized in Sept. 2016, and Pre-Design Investigation work was completed in 2017. EPA anticipates cleanup work to begin in Summer 2018.